



DEPARTMENT OF TRANSPORTATION

National Highway Traffic Safety Administration

[Docket No. NHTSA-2021-0026; Notice 1]

Spartan Motors USA, Inc., Receipt of Petition for Decision of Inconsequential Noncompliance

AGENCY: National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

ACTION: Receipt of petition.

SUMMARY: Spartan Motors USA, Inc. (Spartan), has determined that certain model year (MY) 2005–2020 Spartan Diamond, Gladiator, and MetroStar emergency response vehicles do not fully comply with Federal Motor Vehicle Safety Standard (FMVSS) No. 121, *Air Brake Systems*. Spartan filed an original noncompliance report dated November 4, 2019, and later amended it on November 11, 2019. Subsequently, Spartan petitioned NHTSA on December 2, 2019, for a decision that the subject noncompliance is inconsequential as it relates to motor vehicle safety. This notice announces receipt of Spartan’s petition.

DATES: Send comments on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE *FEDERAL REGISTER*]**.

ADDRESSES: Interested persons are invited to submit written data, views, and arguments on this petition. Comments must refer to the docket and notice number cited in the title of this notice and submitted by any of the following methods:

- Mail: Send comments by mail addressed to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, S.E., Washington, DC 20590.
- Hand Delivery: Deliver comments by hand to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room

W12-140, 1200 New Jersey Avenue, S.E., Washington, DC 20590. The Docket Section is open on weekdays from 10 am to 5 pm except for Federal holidays.

- Electronically: Submit comments electronically by logging onto the Federal Docket Management System (FDMS) website at <https://www.regulations.gov/>. Follow the online instructions for submitting comments.
- Comments may also be faxed to (202) 493-2251.

Comments must be written in the English language and be no greater than 15 pages in length, although there is no limit to the length of necessary attachments to the comments. If comments are submitted in hard copy form, please ensure that two copies are provided. If you wish to receive confirmation that comments you have submitted by mail were received, please enclose a stamped, self-addressed postcard with the comments. Note that all comments received will be posted without change to https://www.regulations.gov, including any personal information provided.

All comments and supporting materials received before the close of business on the closing date indicated above will be filed in the docket and will be considered. All comments and supporting materials received after the closing date will also be filed and will be considered to the fullest extent possible.

When the petition is granted or denied, notice of the decision will also be published in the **Federal Register** pursuant to the authority indicated at the end of this notice.

All comments, background documentation, and supporting materials submitted to the docket may be viewed by anyone at the address and times given above. The documents may also be viewed on the internet at https://www.regulations.gov by following the online instructions for accessing the docket. The docket ID number for this petition is shown in the heading of this notice.

DOT's complete Privacy Act Statement is available for review in a Federal Register notice published on April 11, 2000 (65 FR 19477–78).

FOR FURTHER INFORMATION CONTACT: Ahmad Barnes, Safety Compliance

Engineer, NHTSA, Office of Vehicle Safety Compliance, (202) 366-7236.

SUPPLEMENTARY INFORMATION:

I. Overview:

Spartan has determined that certain MY 2005–2020 Spartan Diamond, Gladiator, and MetroStar emergency response vehicles do not fully comply with the requirements of paragraph S5.1.2.1 of FMVSS No. 121, *Air Brake Systems* (49 CFR 571.121). Spartan filed an original noncompliance report dated November 4, 2019, and later amended it on November 11, 2019, pursuant to 49 CFR part 573, *Defect and Noncompliance Responsibility and Reports*. In the November 11, 2019 noncompliance report, Spartan indicated that the vehicles at issue had air reservoirs with a capacity of 2,068 cubic inches without describing how this capacity was insufficient to meet the requirements of S5.1.2.1 of FMVSS No. 121. Spartan subsequently petitioned NHTSA on December 2, 2019, for an exemption from the notification and remedy requirements of 49 U.S.C. Chapter 301 on the basis that this noncompliance is inconsequential as it relates to motor vehicle safety, pursuant to 49 U.S.C. 30118(d) and 30120(h) and 49 CFR part 556, *Exemption for Inconsequential Defect or Noncompliance*.

This notice of receipt of Spartan’s petition is published under 49 U.S.C. 30118 and 30120 and does not represent any Agency decision or other exercise of judgment concerning the merits of the petition.

II. Vehicles Involved:

Approximately 3,583 MY 2005–2020 Spartan Diamond, Gladiator, and MetroStar emergency response vehicles, manufactured between October 18, 2004, and October 1, 2019, are potentially involved.

III. Noncompliance:

Spartan described the noncompliance as combined volume of air in the service and supply reservoirs in the air brake system does not meet the required minimum of twelve times

the combined volume of air from all service brake chambers as in paragraph S5.1.2.1 of FMVSS No. 121.

IV. Rule Requirements:

Paragraph S5.1.2.1 of FMVSS No. 121 includes the requirements relevant to this petition. The combined volume of all service reservoirs and supply reservoirs shall be at least 12 times the combined volume of all service brake chambers.

V. Summary of Spartan's Petition:

The following views and arguments presented in this section, "V. Summary of Spartan's Petition," are the views and arguments provided by Spartan. They have not been evaluated by the Agency and do not reflect the views of the Agency. Spartan describes the subject noncompliance and contends that the noncompliance is inconsequential as it relates to motor vehicle safety.

In support of its petition, Spartan submitted the following reasoning:

1. There are 3,227 chassis cabs affected by this condition, which are equipped with T-30 brake chambers on the steer axle and T-30 brake chambers on the drive axle. In using the values in Table V of FMVSS No. 121, the cumulative air capacity of these brake chambers would be 356 cu. in. Multiplying by 12, the needed air reservoir capacity would be 4,272 cu. in. The actual air reservoir capacity on these vehicles is 4,152 cu. in.

There are 356 chassis cabs affected by this condition, which are equipped with T-30 brake chambers on the steer axle, T-30 brake chambers on the drive axle, and T-30 brake chambers on the tandem axle. In using the values in Table V of FMVSS No. 121, the cumulative air capacity of these brake chambers would be 534 cu. in. Multiplying by 12, the needed air reservoir capacity would be 6,408 cu. in. The actual air reservoir capacity on these vehicles is 6,236 cu. in.

2. **Air Compressor Cut-In Pressure:** In paragraph S5.1.1 of FMVSS No. 121, the vehicle is to be equipped with an air compressor of sufficient capacity to increase air pressure in the supply and service reservoirs from 85 psi to 100 psi when the engine is operating at the vehicle manufacturer's maximum recommend rpm within a time, in seconds, determined by the quotient $((\text{Actual reservoir capacity} \times 25) / \text{Required reservoir capacity})$. In using this equation, in vehicles subject to the noncompliance, the air pressure would be required to go from 85 psi to 100 psi within 24.14 seconds $((4152 \times 25) / 4272)$. Using the same equation and the required air reservoir capacity of 4,272 cu. in., the air pressure would need to increase from 85 psi to 100 psi within 25 seconds. Vehicles subject to the condition that has resulted in the noncompliance to paragraph S5.1.2.1 could increase air pressure from 85 psi to 100 psi in less than 6 seconds, well within the requirement of 24.14 seconds. Further, vehicles subject to this condition have a cut in pressure set at, or greater than, the minimum requirement of 100 psi.

The impact of having 2.7% to 2.8% less air reservoir capacity than required, the difference in the cut in pressure requirement of only 1 second, would appear to have an adverse consequence of a slight increase in air compressor cycling. However, this would be dependent on application of the service brakes.

3. **Emergency Vehicle Duty Cycle:** The vocational duty cycle of a fire apparatus requires the emergency vehicle to respond to emergency situations that are predominantly short distances away, notwithstanding trips to a dealer or service provider. The number of times will vary between fire departments; however, the duty cycle for a fire apparatus is intermittent when compared to an over-the-road vehicle. While the braking applications in these short distances may be frequent, the air compressor would be able to maintain adequate air pressure in the air reservoir system. With the minimal lowered capacity, with the slightly less than a

1 second difference in filling the air reservoir system, the slightly lower than required capacity would likely not be noticeable to the driver.

4. **Vocational Requirements:** The National Fire Protection Association (NFPA) promulgates a vocational standard that defines requirements specific to the vocational aspect of the emergency vehicle. Within NFPA 1901 Standard for Automotive Fire Apparatus (NFPA 1901), emergency vehicles subject to the requirements of the standard are required to be equipped with a quick build up section in the air reservoir system so that if the vehicle has a completely discharged air system, the apparatus would be able to be moved within 60 seconds. For those emergency vehicles that cannot be equipped with the quick build up section, they are required to be equipped with an on-board automatic electric compressor or shoreline hook up.

Additionally, NFPA 1901 requires all vehicles that have a gross vehicle weight rating (GVWR) greater than 36,000 pounds be equipped with an auxiliary braking system. This may be, depending on the option of the purchaser, a transmission retarder, an inline retarder, or exhaust restriction device. All but 16 vehicles subject to this noncompliance have a GVWR of more than 36,000 pounds.

5. **Air System Warning:** The completed emergency vehicles subject to this condition are equipped with two air gauges that monitor the air system pressure in both System 1 and System 2. In addition to the air gauges, there are both a warning light and audible alarm to alert the driver of a low air condition.
6. **Conclusion:** The actual air reservoir capacity in the affected emergency response chassis cabs and emergency vehicles may be between 2.7% and 2.8% less than the calculated required amount. However, due to the duty cycle of an emergency vehicle, the vocational requirements, and the air compressor cycling that is well

within the required time using the equation from FMVSS No. 121, Spartan believes the noncompliance is inconsequential to motor vehicle safety. The less-than-required capacity does not appear to impact vehicle braking performance (e.g., stopping distance, brake application, and release timing). The completed vehicles are equipped with dual air gauges and a visual and audible warning system to alert the driver to a loss of air in the air brake system.

Spartan concludes that the subject noncompliance is inconsequential as it relates to motor vehicle safety and that its petition to be exempted from providing notification of the noncompliance, as required by 49 U.S.C. 30118, and a remedy for the noncompliance, as required by 49 U.S.C. 30120, should be granted.

NHTSA notes that the statutory provisions (49 U.S.C. 30118(d) and 30120(h)) that permit manufacturers to file petitions for a determination of inconsequentiality allow NHTSA to exempt manufacturers only from the duties found in sections 30118 and 30120, respectively, to notify owners, purchasers, and dealers of a defect or noncompliance and to remedy the defect or noncompliance. Therefore, any decision on this petition only applies to the subject vehicles that Spartan no longer controlled at the time it determined that the noncompliance existed. However, any decision on this petition does not relieve vehicle distributors and dealers of the prohibitions on the sale, offer for sale, or introduction or delivery for introduction into interstate commerce of the noncompliant vehicles under their control after Spartan notified them that the subject noncompliance existed.

(Authority: 49 U.S.C. 30118, 30120; delegations of authority at 49 CFR 1.95 and 501.8)

Otto G. Matheke III,

Director, Office of Vehicle Safety Compliance.

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